

RIVERSIDE TRAILER COURT (PWS 5160003) SOURCE WATER ASSESSMENT FINAL REPORT

November 5, 2004



State of Idaho Department of Environmental Quality

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Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the act. This assessment is based on a land use inventory of the designated assessment area, sensitivity factors associated with the wells, and the aquifer characteristics.

This report, *Source Water Assessment the Riverside Trailer Court, Burley, Idaho* describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The Riverside Trailer Court (PWS #5160003) water system consists of one well. The well is located on the East Side of 300 West Road, just north of Highway 30. The system currently serves approximately 35 people through 16 connections.

Final susceptibility scores are derived from equally weighing system construction scores, hydrologic sensitivity scores, and potential contaminant/land use scores. Therefore, a low rating in one or two categories coupled with a higher rating in other categories results in a final rating of low, moderate, or high susceptibility. With the potential contaminants associated with most urban and heavily agricultural areas, the best score a well can get is moderate. Potential Contaminants/Land Uses are divided into four categories, inorganic contaminants (IOCs, e.g. nitrates, arsenic), volatile organic contaminants (VOCs, e.g. petroleum products), synthetic organic contaminants (SOCs, e.g. pesticides), and microbial contaminants (e.g. bacteria). Different wells can be subject to various contamination settings, therefore separate scores are given for each type of contaminant.

In terms of total susceptibility, the well rated high for IOCs, VOCs, SOCs, and microbial contaminants. System construction rated high, hydrologic sensitivity rated moderate, and land use scores were high for IOCs, VOCs, and SOCs, and moderate for microbial contaminants (Table 2).

No microbial contamination has ever been detected in the well. The IOC nitrate has been detected in tested water at concentrations (6.92 mg/L) approaching the MCL (10 mg/L). The well exists in a county of high nitrogen fertilizer, herbicide, and agricultural-chemical use. In addition, the well's delineation crosses a priority area for nitrate, as well as the pesticide atrazine.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources. If the system should need to expand in the future, new well sites should be located in areas with as few potential sources of contamination as possible, and the site should be reserved and protected for this specific purpose.

For Riverside Trailer Court, drinking water protection activities should first focus on maintaining the requirements of the sanitary survey (an inspection conducted every five years with the purpose of

determining the physical condition of a water system's components and its capacity). Any spills from the potential contaminant sources listed in Table 1 of this report should be carefully monitored, as should any future development within the delineated area. Other practices aimed at reducing the leaching of agricultural chemicals from agricultural land within the designated source water area should be implemented. No chemicals should be stored or applied within the 50-foot radius of the wellhead, and that area should not be used to store anything. As most of the designated areas are outside the direct jurisdiction of Riverside Trailer Court, partnerships with state and local agencies and industry groups should be established and are critical to success.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A strong public education program should be a primary focus of any drinking water protection plan as the delineation is near urban and residential land use areas. Public education topics could include proper lawn and garden care practices, household hazardous waste disposal methods, proper care and maintenance of septic systems, and the importance of conservation to name but a few. There are multiple resources available to help communities implement protection programs, including the Drinking Water Academy of the EPA. There are transportation corridors near the delineation, therefore the Department of Transportation should be involved in protection activities. Drinking water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission, the local Soil Conservation District, and the Natural Resources Conservation Service.

A system must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (e.g. zoning, permitting) or non-regulatory in nature (e.g. good housekeeping, public education, specific best management practices). For assistance in developing protection strategies please contact the Twin Falls Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR THE RIVERSIDE TRAILER COURT, BURLEY, IDAHO

Section 1. Introduction - Basis for Assessment

The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this source means.** A map showing the delineated source water assessment area and the inventory of significant potential sources of contamination identified within that area are attached. The list of significant potential contaminant source categories and their rankings, used to develop this assessment, is also attached.

Level of Accuracy and Purpose of the Assessment

The Idaho Department of Environmental Quality (DEQ) is required by the EPA to assess the over 2,900 public drinking water sources in Idaho for their relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area, sensitivity factors associated with the wells, and aquifer characteristics. The resources and time available to accomplish assessments are limited. Therefore, an in-depth, site-specific investigation to identify each significant potential source of contamination for every public water system is not possible. **This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The ultimate goal of this assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. DEQ recognizes that pollution prevention activities generally require less time and money to implement than treating a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a drinking water protection program should be determined by the local community based on its own needs and limitations. Drinking water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Section 2. Conducting the Assessment

General Description of the Source Water Quality

The Riverside Trailer Court (PWS #5160003) water system consists of one well. The well is located on the East Side of 300 West Road, just north of Highway 30. The system currently serves approximately 35 people through 16 connections.

No microbial contamination has ever been detected in the well. The IOC nitrate has been detected in tested water at concentrations (6.92 mg/L) approaching the MCL (10 mg/L). The well exists in a county of high nitrogen fertilizer, herbicide, and agricultural-chemical use. In addition, the well's delineation crosses a priority area for nitrate, as well as the pesticide atrazine.

Defining the Zones of Contribution – Delineation

The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time-of-travel zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the aquifer. DEQ used a refined computer model approved by the EPA in determining the time-of-travel (TOT) zones for water associated with the Goose Creek – Golden Valley aquifer in the vicinity of the Riverside Trailer Court. The computer model used site-specific data, assimilated by DEQ from a variety of sources including local area well logs and hydrogeologic reports summarized below.

Deep aquifer wells extract water from basalt of the Snake River Group to the northeast and east and possibly the Idavada Volcanics to the south. The Snake River Group is a few thousand feet thick and consists of basalt flows with thicknesses ranging from a few to several tens of feet. Contacts between the basalt flows and rubbly zones are the best water producers. The basalt overlies the Idavada Volcanics.

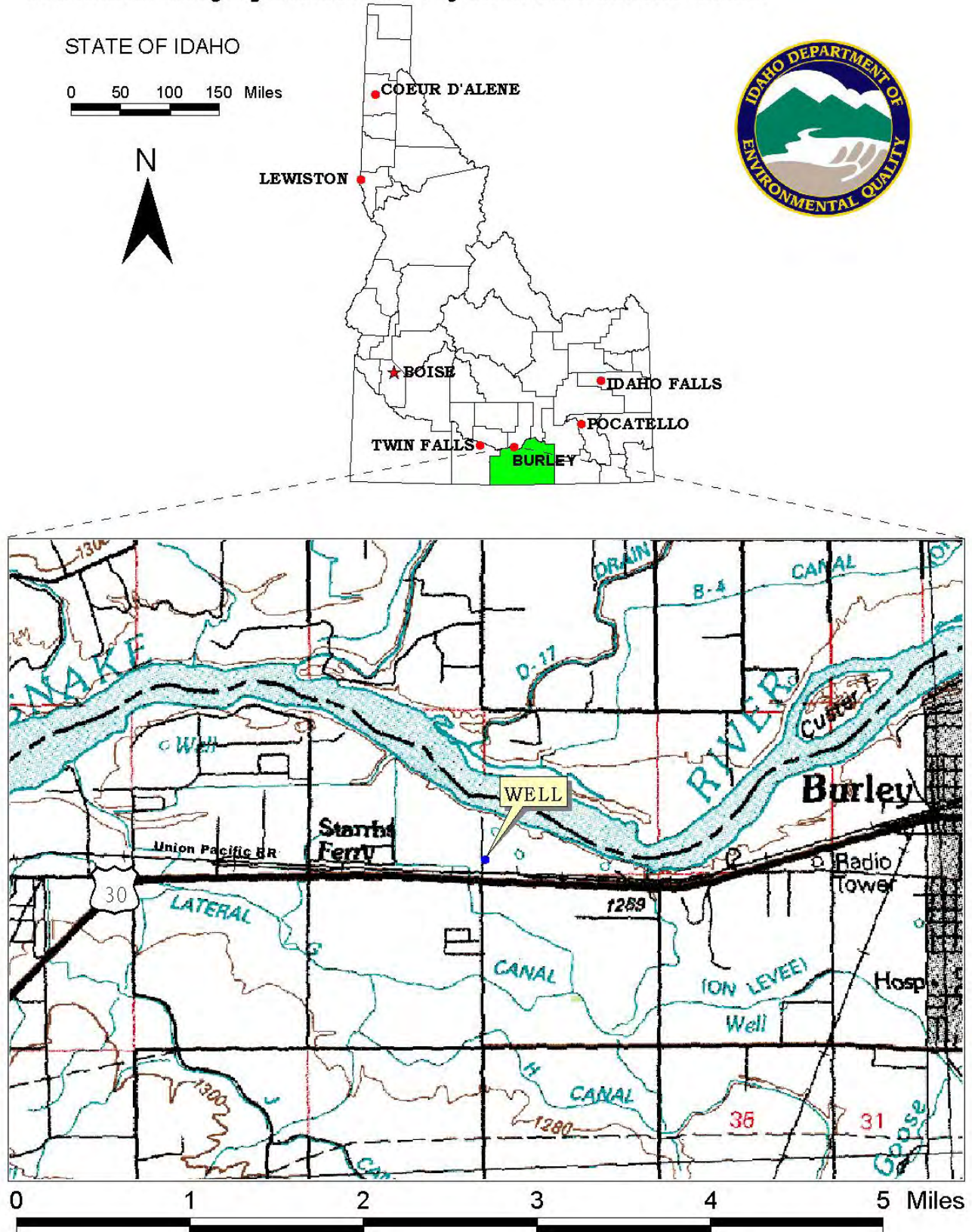
The Idavada Volcanics unit, locally referred to as rhyolite, consists of welded ash and tuff, rhyolite, and some basalt flows. The flows are dense and are commonly reddish-brown, gray, or black. The tuff and ash beds are fine to coarse grained, light colored, and commonly water laden (Crosthwaite, 1969).

Twenty-four years of records since 1964 set the average yearly rainfall in Burley at 8.6 inches

(Crosthwaite, 1969). The Albion Range and the fault zone at its base bound the plain on the southeast and the Rock Creek Hills bound the plain on the southwest. The lowland slopes northward from an altitude of about 4,600 feet at Oakley to 4,150 feet at Burley (Crosthwaite, 1969).

The regional Snake River Group basalts to the east and northeast mainly influenced the City of Burley delineation modeling. However, there was also a southerly component of the flow from the fault zone along the Albion Range. Previous modeling (Garabedian, 1992) in the area was used as a guide.

FIGURE 1. Geographic Location of Riverside Trailer Court



The delineated source water assessment area for the Riverside Trailer Court well can best be described as an eastward trending sector approximately 8 miles long which widens to approximately 4.25 miles at its extent (Figure 2). The data used by DEQ in determining the Source Water Assessment delineation areas are available upon request.

Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by DEQ, Riverside Trailer Court, and from available databases.

It is important to understand that a release may never occur from a potential source of contamination provided best management practices are used at the facility. Many potential sources of contamination are regulated at the federal level, state level, or both, to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination, such as educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

Contaminant Source Inventory Process

A contaminant inventory of the study area was conducted in September and October of 2004. This involved identifying and documenting potential contaminant sources within the Riverside Trailer Court Source Water Assessment Area through the use of computer databases and Geographic Information System maps developed by DEQ.

The well's delineation contains 220 potential contaminant sources (See Appendix A). These potential contaminant sources include point sources (such as waste land application (WLAP) sites, superfund amendments and reauthorization act (SARA) sites, dairies, and gravel pits) and nonpoint sources (such as transportation corridors and rivers) within the delineation. If an accidental spill occurred in one of these sources, IOCs, VOCs, SOC, or microbial contaminants could be added to the aquifer system.

Section 3. Susceptibility Analyses

The water system's susceptibility to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. Attachment A contains the susceptibility analysis worksheets. The following summaries describe the rationale for the susceptibility ranking.

Hydrologic Sensitivity

The hydrologic sensitivity of a well is dependent upon four factors: the surface soil composition, the material in the vadose zone (between the land surface and the water table), the depth to first ground water, and the presence of a 50-foot thick fine-grained zone above the producing zone of the well. Slowly draining soils such as silt and clay typically are more protective of ground water than coarse-grained soils such as sand and gravel. Similarly, fine-grained sediments in the subsurface and a water depth of more than 300 feet protect the ground water from contamination.

The hydrologic sensitivity rated moderate for the well (see Table 1). Soils surrounding the well are described as poorly- to moderately-drained by the Natural Resource Conservation Service (NRCS), which inhibits the downward movement of contaminants. Scores were increased because composition of the vadose zone is predominantly of permeable materials (sand and gravel), the water table depth is less than 300 feet deep (239 feet), and an aquitard does not exist above the well's producing zone.

Well Construction

Well construction directly affects the ability of the well to protect the aquifer from contaminants. System construction scores are reduced when information shows that potential contaminants will have a more difficult time reaching the intake of the well. Lower scores imply a system is less vulnerable to contamination. For example, if the well casing and annular seal both extend into a low permeability unit, then the possibility of contamination is reduced and the system construction score goes down. If the highest production interval is more than 100 feet below the water table, then the system is considered to have better buffering capacity. If the wellhead and surface seal are maintained to standards, as outlined in Sanitary Surveys, then contamination down the well bore is less likely. If the well is protected from surface flooding and is outside the 100-year floodplain, then contamination from surface events is reduced.

The system construction score rated high for the well (see Table 1). The well was drilled in 2003 to a depth of 340 feet into "lava with water talc", according to the well log. Water derives from a screened interval set between 321 and 339 feet below ground surface (bgs). The well is located outside of any 100-year floodplains and, according to the sanitary survey, is protected from flooding. The score was increased because the highest production came from less than 100 feet below the water table, the casing does not extend into a low permeability unit, and the wellhead does not meet standards (no backflow prevention on sample tap).

The Idaho Department of Water Resources *Well Construction Standards Rules* (1993) require all Public Water Systems (PWSs) to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works* (1997) during construction. Some of the requirements include casing thickness, well tests, and depth and formation type that the surface seal must be installed into. Table 1 of the *Recommended Standards for Water Works* (1997) lists the required steel casing thickness for various diameter wells. Six-inch diameter wells require a casing thickness of at least 0.280-inches and 8-inch wells require a casing thickness of 0.322 inches. Well tests are required at the design pumping rate for 24 hours or until stabilized drawdown has continued for at least six hours when pumping at 1.5 times the design pumping rate. According to the well log, although the well meets current casing thickness standards, the pump test was only administered for one hour, rather than the six hour minimum. Therefore the well received an additional point in the system construction category.

Potential Contaminant Source and Land Use

The well rated high for IOCs (e.g. arsenic, nitrate), SOCs (e.g. pesticides), VOCs (e.g. petroleum products), and moderate for microbial contaminants (e.g. bacteria). The potential contaminant sources, canals, transportation corridors, and the amount of irrigated agriculture contributed to the contaminant inventory ratings. County-level nitrogen fertilizer use, county-level herbicide use, and total county-level agricultural chemical use are rated as high surrounding the well.

Final Susceptibility Rating

An IOC detection above a drinking water standard MCL, any detection of a VOC or SOC, or a detection of total coliform bacteria or fecal coliform bacteria at the wellhead will automatically give a high susceptibility rating to a well, despite the land use of the area, because a pathway for contamination already exists. Additionally, the storage or application of any potential contaminants within 50 feet of the wellhead will lead to an automatic high score. In this case, the well rated high for IOCs, VOCs, SOCs, and microbial contaminants. Hydrologic sensitivity and system construction scores are heavily weighted in the final scores. Having multiple potential contaminant sources in the 0- to 3-year time-of-travel zone (Zone 1B) and much agricultural land throughout the delineation contribute greatly to the overall ranking.

Table 2. Summary of the Riverside Trailer Court Susceptibility Evaluation

Source	Susceptibility Scores ¹									
	Hydrologic Sensitivity	Contaminant Inventory				System Construction	Final Susceptibility Ranking			
		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
Well	M	H	H	H	M	H	H	H	H	H

¹H = High Susceptibility, M = Moderate Susceptibility, L = Low Susceptibility

IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Susceptibility Summary

In terms of total susceptibility, the well rated high for IOC, VOCs, SOC, and microbial contaminants. System construction rated high, hydrologic sensitivity rated moderate, and land use scores were high for IOC, VOCs, and SOC, and moderate for microbial contaminants (Table 2).

No microbial contamination has ever been detected in the well. The IOC nitrate has been detected in tested water at concentrations (6.92 mg/L) approaching the MCL (10 mg/L). The well exists in a county of high nitrogen fertilizer, herbicide, and agricultural-chemical use. In addition, the well's delineation crosses a priority area for nitrate, as well as the pesticide atrazine.

Section 4. Options for Drinking Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective drinking water protection program is tailored to the particular local drinking water protection area. A community with a fully developed drinking water protection program will incorporate many strategies, be they regulatory in nature (i.e. zoning, permitting) or non-regulatory in nature (i.e. good housekeeping, public education, specific best management practices). As most of the designated areas are outside the direct jurisdiction of the Riverside Trailer Court, partnerships with state and local agencies and industry groups should be established and are critical to success. For assistance in developing protection strategies please contact the Twin Falls Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

For Riverside Trailer Court, drinking water protection activities should first focus on maintaining the requirements of the sanitary survey. Any spills from the potential contaminant sources listed in Appendix A of this report should be carefully monitored, as should any future development in the delineated areas. Other practices aimed at reducing the leaching of agricultural chemicals from agricultural land within the designated source water areas should be implemented. Additionally, a 50-foot radius of the wellhead should be kept clear of ALL potential contaminant sources and no chemicals should be stored or applied within the area.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A strong public education program should be a primary focus of any drinking water protection plan as the delineation is near urban and residential land use areas. Public education topics could include proper lawn and garden care practices, household hazardous waste disposal methods, proper care and maintenance of septic systems, and the importance of conservation to name but a few.

There are multiple resources available to help communities implement protection programs, including the Drinking Water Academy of the U.S. Environmental Protection Agency. There are transportation corridors near the delineation, therefore the Department of Transportation should be involved in protection activities. Drinking water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission, the local Soil Conservation District, and the Natural Resources Conservation Service.

Assistance

Public water suppliers and others may call the following DEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the DEQ office for preliminary review and comments.

Twin Falls Regional DEQ Office (208) 736-2190

State DEQ Office (208) 373-0502

Website: <http://www2.state.id.us/deq>

Water suppliers serving fewer than 10,000 persons may contact Ms. Melinda Harper, mharper@idahoruralwater.com , Idaho Rural Water Association, at 208-343-7001 for assistance with drinking water protection strategies.

POTENTIAL CONTAMINANT INVENTORY

LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ASuperfund is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.

References Cited

Crosthwaite, E.G., 1969. *Water Resources in the Goose Creek-Rock Creek Basins, Idaho, Nevada and Utah*. prepared by the U.S. Geological Survey in cooperation with Idaho Department of Reclamation, Water Information Bulletin No. 8.

deSonneville, J.L.J, 1972, *Development of a Mathematical Groundwater Model*, Water Resources Research Institute, University of Idaho, Moscow, Idaho, 227 p.

Garabedian, S.P., 1992, *Hydrology and Digital Simulation of the Regional Aquifer System, Eastern Snake River Plain, Idaho*, U.S. Geological Survey Professional Paper 1408-F, 102 p., 10 pl. I-FY92.

Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 1997. "*Recommended Standards for Water Works*."

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Idaho Department of Water Resources, 1993. *Administrative Rules of the Idaho Water Resource Board: Well Construction Standards Rules*. IDAPA 37.03.09.

Attachment A

Riverside Trailer Court Susceptibility Analysis Worksheets

The final scores for the susceptibility analysis were determined using the following formulas:

- 1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)
- 2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.375)

Final Susceptibility Scoring:

0 - 5 Low Susceptibility

6 - 12 Moderate Susceptibility

≥ 13 High Susceptibility

1. System Construction	SCORE			
Drill Date	03/16/2004			
Driller Log Available	YES			
Sanitary Survey (if yes, indicate date of last survey)	YES	2004		
Well meets IDWR construction standards	NO	1		
Wellhead and surface seal maintained	NO	1		
Casing and annular seal extend to low permeability unit	NO	2		
Highest production 100 feet below static water level	NO	1		
Well located outside the 100 year flood plain	YES	0		
Total System Construction Score		5		
2. Hydrologic Sensitivity				
Soils are poorly to moderately drained	YES	0		
Vadose zone composed of gravel, fractured rock or unknown	YES	1		
Depth to first water > 300 feet	NO	1		
Aquitard present with > 50 feet cumulative thickness	NO	2		
Total Hydrologic Score		4		
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score
Land Use Zone 1A	IRRIGATED CROPLAND	2	2	2
Farm chemical use high	YES	2	0	2
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		4	2	4
Potential Contaminant / Land Use - ZONE 1B				
Contaminant sources present (Number of Sources)	YES	49	53	61
(Score = # Sources X 2) 8 Points Maximum		8	8	8
Sources of Class II or III leacheable contaminants or	YES	4	4	4
4 Points Maximum		4	4	4
Zone 1B contains or intercepts a Group 1 Area	YES	2	0	2
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		14	12	14
Potential Contaminant / Land Use - ZONE II				
Contaminant Sources Present	YES	2	2	2
Sources of Class II or III leacheable contaminants or	YES	1	1	1
Land Use Zone II	Greater Than 50% Irrigated Agricultural Land	0	0	0
Potential Contaminant Source / Land Use Score - Zone II		3	3	3
Potential Contaminant / Land Use - ZONE III				
Contaminant Source Present	YES	1	1	1
Sources of Class II or III leacheable contaminants or	YES	1	1	1
Is there irrigated agricultural lands that occupy > 50% of	YES	1	1	1
Total Potential Contaminant Source / Land Use Score - Zone III		3	3	3
Cumulative Potential Contaminant / Land Use Score		21	17	21
4. Final Susceptibility Source Score		14	13	14
5. Final Well Ranking		High	High	High

Appendix A

Riverside Trailer Court Potential Contaminant Source Inventory

Table 1. Riverside Trailer Court, Main Well and Railroad Well, Potential Contaminant Inventory

SITE #	Source Description ¹	TOT Zone ² (years)	Source of Information	Potential Contaminants ³
1, 13	UST Site, LUST Site, Site Cleanup Completed, Impact: Unknown	3 YR	Database Search	VOC, SOC
2, 4	UST Site, LUST Site, Site Cleanup Completed, Impact: Unknown	3 YR	Database Search	VOC, SOC
3, 14	UST Site, LUST Site, Site Cleanup Completed, Impact: Unknown	3 YR	Database Search	VOC, SOC
5	UST Site, Industrial, Impact: Closed	3 YR	Database Search	VOC, SOC
6	UST Site, State Government, Impact: Closed	3 YR	Database Search	VOC, SOC
7	UST Site, Industrial, Impact: Closed	3 YR	Database Search	VOC, SOC
8	UST Site, Commercial, Impact: Closed	3 YR	Database Search	VOC, SOC
9	UST Site, State Government, Impact: Open	3 YR	Database Search	VOC, SOC
10	UST Site, Other, Impact: Closed	3 YR	Database Search	VOC, SOC
11	UST Site, Not Listed, Impact: Closed	3 YR	Database Search	VOC, SOC
12	UST Site, Other, Impact: Closed	3 YR	Database Search	VOC, SOC
15, 62	SARA Site, Petroleum Bulk Station and Terminal	3 YR	Database Search	VOC, SOC
16, 50	RCRA Site, Automobile Dealers-New Cars	3 YR	Database Search	IOC, VOC, SOC
17	Feed-Dealers (Wholesale)	3 YR	Database Search	IOC, SOC, Microbial
18, 19, 20	Buildings-Metal	3 YR	Database Search	IOC, VOC, SOC
21	Ambulance Service	3 YR	Database Search	IOC, VOC, SOC, Microbial
22	Wrecker Service	3 YR	Database Search	IOC, VOC, SOC
23	Machine Shops	3 YR	Database Search	IOC, VOC, SOC
24, 63	SARA Site, Grain-Dealers (Wholesale)	3 YR	Database Search	IOC, SOC, Microbial
25	Gasoline-Wholesale	3 YR	Database Search	VOC, SOC
26	Parking Area Maintenance & Marking	3 YR	Database Search	IOC, VOC, SOC
27	Farm Supplies (Wholesale)	3 YR	Database Search	IOC, SOC, Microbial
28	Automobile Renting & Leasing	3 YR	Database Search	IOC, VOC, SOC
29	Storage-Household & Commercial	3 YR	Database Search	IOC, VOC, SOC, Microbial
30	General Contractors	3 YR	Database Search	IOC, VOC, SOC
31	Fertilizers (Wholesale)	3 YR	Database Search	IOC, SOC, Microbial
32	State Government-National Security	3 YR	Database Search	IOC, VOC, SOC

SITE #	Source Description ¹	TOT Zone ² (years)	Source of Information	Potential Contaminants ³
33	Tree Service	3 YR	Database Search	IOC, VOC, SOC
34	Batteries-Storage-Retail	3 YR	Database Search	IOC, VOC, SOC
35	Roofing Contractors	3 YR	Database Search	IOC, VOC, SOC
36	Livestock Auction Markets	3 YR	Database Search	IOC, Microbial
37	Painters	3 YR	Database Search	IOC, SOC
38	Automobile Dealers-Used Cars	3 YR	Database Search	IOC, VOC, SOC
39	Automobile Repairing & Service	3 YR	Database Search	IOC, VOC, SOC
40	Welding	3 YR	Database Search	IOC, VOC, SOC
41	Nurserymen	3 YR	Database Search	IOC, SOC, Microbial
42	Signs (Manufacturers)	3 YR	Database Search	IOC, VOC, SOC
43	Signs (Manufacturers)	3 YR	Database Search	IOC, VOC, SOC
44	NPDES site, Industrial Discharge	3 YR	Database Search	IOC, VOC, SOC
45	NPDES site, Industrial Discharge	3 YR	Database Search	IOC, VOC, SOC
46	NPDES site, Industrial Discharge	3 YR	Database Search	IOC, VOC, SOC
47	CERCLA Site,	3 YR	Database Search	IOC, VOC, SOC
48	RCRA Site	3 YR	Database Search	IOC, VOC, SOC
49	RCRA Site	3 YR	Database Search	IOC, VOC, SOC
51	RCRA Site	3 YR	Database Search	IOC, VOC, SOC
52	RCRA Site	3 YR	Database Search	IOC, VOC, SOC
53	Mine, Gold	3 YR	Database Search	IOC, VOC, SOC
54	Mine, Clay	3 YR	Database Search	IOC, VOC, SOC
55	Mine, Sand & Gravel	3 YR	Database Search	IOC, VOC, SOC
56	Mine, Sand & Gravel	3 YR	Database Search	IOC, VOC, SOC
57	Mine, Sand & Gravel	3 YR	Database Search	IOC, VOC, SOC
58, 65, 66	Mine, Sand & Gravel, AST Site, SARA Site	3 YR	Database Search	IOC, VOC, SOC
59	Mine, Sand & Gravel	3 YR	Database Search	IOC, VOC, SOC
60	SARA Site, Refrigerated Warehousing & storage	3 YR	Database Search	IOC, VOC, SOC
61	SARA Site, Frozen Fruits, Juices and vegetables	3 YR	Database Search	IOC, SOC, Microbial
64	SARA Site, Farm Supplies	3 YR	Database Search	IOC, SOC, Microbial
67	AST, Asphalt	3 YR	Database Search	IOC, VOC, SOC
68	Group1	3 YR	Database Search	IOC, VOC, SOC
	Union Pacific Railroad	3 YR	GIS Map	IOC, VOC, SOC, Microbial
	Highway 27	3 YR	GIS Map	IOC, VOC, SOC, Microbial
	Highway 30	3 YR	GIS Map	IOC, VOC, SOC, Microbial
	Snake River	3 YR	GIS Map	IOC, VOC, SOC, Microbial
69, 110	UST Site, LUST Site, Site Cleanup Incomplete, Impact: GROUND WATER	6 YR	Database Search	VOC, SOC
70	LUST Site, Site Cleanup Completed, Impact: Unknown	6 YR	Database Search	VOC, SOC

SITE #	Source Description ¹	TOT Zone ² (years)	Source of Information	Potential Contaminants ³
71	LUST Site, Site Cleanup Completed, Impact: Unknown	6 YR	Database Search	VOC, SOC
72, 90	UST Site, LUST Site, Site Cleanup Completed, Impact: Unknown	6 YR	Database Search	VOC, SOC
73, 91	LUST Site, UST Site, Site Cleanup Completed, Impact: GROUND WATER	6 YR	Database Search	VOC, SOC
74, 96	UST Site, LUST Site, Site Cleanup Completed, Impact: Unknown	6 YR	Database Search	VOC, SOC
75, 97, 192	LUST Site, UST Site, Oils-Fuel (Wholesale), Site Cleanup Completed, Impact: Unknown	6 YR	Database Search	VOC, SOC
76, 101	UST Site, LUST Site, Site Cleanup Completed, Impact: Unknown	6 YR	Database Search	VOC, SOC
77, 103	UST Site, LUST Site, Site Cleanup Completed, Impact: Unknown	6 YR	Database Search	VOC, SOC
78, 105	UST Site, LUST Site, Site Cleanup Completed, Impact: Unknown	6 YR	Database Search	VOC, SOC
79, 107	UST Site, LUST Site, Site Cleanup Completed, Impact: Unknown	6 YR	Database Search	VOC, SOC
80	LUST Site, Site Cleanup Completed, Impact: Unknown	6 YR	Database Search	VOC, SOC
81, 115	UST Site, LUST Site, Site Cleanup Completed, Impact: Unknown	6 YR	Database Search	VOC, SOC
82, 122	UST Site, LUST Site, Site Cleanup Completed, Impact: Unknown	6 YR	Database Search	VOC, SOC
83	LUST Site, Site Cleanup Completed, Impact: Unknown	6 YR	Database Search	VOC, SOC
84, 132	UST Site, LUST Site, Site Cleanup Completed, Impact: Unknown	6 YR	Database Search	VOC, SOC
85	UST Site, Gas Station, Impact: Open	6 YR	Database Search	VOC, SOC
86	UST Site, Not Listed, Impact: Closed	6 YR	Database Search	VOC, SOC
87	UST Site, Local Government, Impact: Closed	6 YR	Database Search	VOC, SOC
88	UST Site, Local Government, Impact: Open	6 YR	Database Search	VOC, SOC

SITE #	Source Description ¹	TOT Zone ² (years)	Source of Information	Potential Contaminants ³
89	UST Site, Gas Station, Impact: Closed	6 YR	Database Search	VOC, SOC
92	UST Site, State Government, Impact: Closed	6 YR	Database Search	VOC, SOC
93	UST Site, Gas Station, Impact: Closed	6 YR	Database Search	VOC, SOC
94, 195	Fire Departments, UST Site, Impact: Closed	6 YR	Database Search	VOC, SOC
95	UST Site, Gas Station, Impact: Open	6 YR	Database Search	VOC, SOC
98	UST Site, Commercial, Impact: Closed	6 YR	Database Search	VOC, SOC
99	UST Site, Not Listed, Impact: Closed	6 YR	Database Search	VOC, SOC
100, 183	UST Site, Auto Dealership, Impact: Closed	6 YR	Database Search	VOC, SOC
102	UST Site, Not Listed, Impact: Open	6 YR	Database Search	VOC, SOC
104	UST Site, Not Listed, Impact: Closed	6 YR	Database Search	VOC, SOC
106	UST Site, Utilities, Impact: Open	6 YR	Database Search	VOC, SOC
108	UST Site, Federal Non- Military, Impact: Open	6 YR	Database Search	VOC, SOC
109, 189	Movers, UST Site; impact: closed	6 YR	Database Search	VOC, SOC
111	UST Site, Not Listed, Impact: Closed	6 YR	Database Search	VOC, SOC
112	UST Site, Gas Station, Impact: Closed	6 YR	Database Search	VOC, SOC
113	UST Site, Commercial, Impact: Closed	6 YR	Database Search	VOC, SOC
114	UST Site, Other, Impact: Closed	6 YR	Database Search	VOC, SOC
116, 237	UST Site, Gas Station, Impact: Open, SARA Site	6 YR	Database Search	VOC, SOC
117	UST Site, Commercial, Impact: Closed	6 YR	Database Search	VOC, SOC
118	UST Site, Gas Station, Impact: Closed	6 YR	Database Search	VOC, SOC
119	UST Site, Not Listed, Impact: Closed	6 YR	Database Search	VOC, SOC
121	UST Site, Residential, Impact: Closed	6 YR	Database Search	VOC, SOC
123	UST Site, Local Government, Impact: Closed	6 YR	Database Search	VOC, SOC
124	UST Site, Gas Station, Impact: Closed	6 YR	Database Search	VOC, SOC
125	UST Site, Other, Impact: Closed	6 YR	Database Search	VOC, SOC

SITE #	Source Description ¹	TOT Zone ² (years)	Source of Information	Potential Contaminants ³
126	UST Site, Other, Impact: Closed	6 YR	Database Search	VOC, SOC
127	UST Site, Local Government, Impact: Closed	6 YR	Database Search	VOC, SOC
128	UST Site, Gas Station, Impact: Closed	6 YR	Database Search	VOC, SOC
129	UST Site, Gas Station, Impact: Open	6 YR	Database Search	VOC, SOC
130	UST Site, Gas Station, Impact: Open	6 YR	Database Search	VOC, SOC
131	UST Site, Industrial, Impact: Open	6 YR	Database Search	VOC, SOC
133	Farms	6 YR	Database Search	IOC, VOC, SOC
134	Hardware-Wholesale	6 YR	Database Search	IOC, VOC, SOC
135	Motorcycles & Motor Scooters	6 YR	Database Search	IOC, VOC, SOC
136	Automobile Repairing & Service	6 YR	Database Search	IOC, VOC, SOC
137	Excavating Contractors	6 YR	Database Search	IOC, VOC, SOC
138	Automobile Dealers-Used Cars	6 YR	Database Search	IOC, VOC, SOC
139	Boat Equipment & Supplies	6 YR	Database Search	IOC, VOC, SOC
140	Automobile Dealers-Used Cars	6 YR	Database Search	IOC, VOC, SOC
141	Farms	6 YR	Database Search	IOC, VOC, SOC
142	Automobile Parts & Supplies-Retail	6 YR	Database Search	IOC, VOC, SOC
143	Cleaners	6 YR	Database Search	VOC
144	Building Contractors	6 YR	Database Search	IOC, VOC, SOC
145	Truck-Repairing & Service	6 YR	Database Search	IOC, VOC, SOC
146	Food Processors & Manufacturers	6 YR	Database Search	IOC, SOC
147	Automobile Dealers-Used Cars	6 YR	Database Search	IOC, VOC, SOC
148	Storage-Household & Commercial	6 YR	Database Search	IOC, VOC, SOC
149, 150	Service Stations-Gasoline & Oil	6 YR	Database Search	IOC, VOC, SOC
151	Car Washing & Polishing	6 YR	Database Search	IOC, VOC, SOC
152	General Contractors	6 YR	Database Search	IOC, VOC, SOC
153	Automobile Body-Repairing & Painting	6 YR	Database Search	IOC, VOC, SOC
154	Automobile & Truck Brokers	6 YR	Database Search	IOC, VOC, SOC
155	Funeral Directors	6 YR	Database Search	IOC, SOC
156	Photo Finishing-Retail	6 YR	Database Search	IOC, SOC
157	Farm Equipment (Wholesale)	6 YR	Database Search	IOC, VOC, SOC
158	Boat Dealers	6 YR	Database Search	IOC, VOC, SOC
159	Motorcycles & Motor Scooters	6 YR	Database Search	IOC, VOC, SOC

SITE #	Source Description ¹	TOT Zone ² (years)	Source of Information	Potential Contaminants ³
160	Automobile Repairing & Service	6 YR	Database Search	IOC, VOC, SOC
161	Bicycles-Dealers	6 YR	Database Search	IOC, VOC, SOC
162	General Contractors	6 YR	Database Search	IOC, VOC, SOC
163	Automobile Repairing & Service	6 YR	Database Search	IOC, VOC, SOC
164	Hay (Wholesale)	6 YR	Database Search	IOC, SOC
165, 226	RCRA Site, Cleaners	6 YR	Database Search	VOC
166	Truck-Repairing & Service	6 YR	Database Search	IOC, VOC, SOC
167	Hardware-Retail	6 YR	Database Search	IOC, SOC
168	Newspapers (Publishers)	6 YR	Database Search	IOC, SOC
169	Service Stations-Gasoline & Oil	6 YR	Database Search	IOC, VOC, SOC
170	Dairies	6 YR	Database Search	IOC, SOC
171	Car Washing & Polishing	6 YR	Database Search	IOC, VOC, SOC
172	Turbochargers (Wholesale)	6 YR	Database Search	IOC, VOC, SOC
173	Photographers-Commercial	6 YR	Database Search	IOC, SOC
174	Motorcycles & Motor Scooters-Deale	6 YR	Database Search	IOC, VOC, SOC
175	Tire-Dealers-Retail	6 YR	Database Search	IOC, VOC, SOC
176	Storage-Household & Commercial	6 YR	Database Search	IOC, VOC, SOC
177	Irrigation Systems & Equipment	6 YR	Database Search	IOC, SOC
178	Truck Renting & Leasing	6 YR	Database Search	IOC, VOC, SOC
179	Commercial Printing NEC	6 YR	Database Search	IOC, SOC
180	Delivery Service	6 YR	Database Search	IOC, VOC, SOC
181	Engines-Gasoline	6 YR	Database Search	IOC, VOC, SOC
182	Storage-Household & Commercial	6 YR	Database Search	IOC, VOC, SOC
184	Livestock Breeders	6 YR	Database Search	IOC, SOC
185	Hardware-Retail	6 YR	Database Search	IOC, VOC, SOC
186	Fabricated Plate Work-Manufacturer	6 YR	Database Search	IOC, VOC, SOC
187	Farms	6 YR	Database Search	IOC, SOC
188, 120	UST Site, Auto Dealership, Impact: Closed	6 YR	Database Search	VOC, SOC
190	Tire-Dealers-Retail	6 YR	Database Search	IOC, SOC
191	Landscape Contractors	6 YR	Database Search	IOC, SOC
193	General Contractors	6 YR	Database Search	IOC, VOC, SOC
194	Contractors-Equipment & Supplies	6 YR	Database Search	IOC, VOC, SOC
196	Service Stations-Gasoline & Oil	6 YR	Database Search	VOC, SOC
197	Automobile Radiator-Repairing	6 YR	Database Search	IOC, VOC, SOC
198	Commercial Printing NEC	6 YR	Database Search	IOC, SOC
199	Water Treatment Equip Service & Supplies	6 YR	Database Search	IOC, VOC, SOC

SITE #	Source Description ¹	TOT Zone ² (years)	Source of Information	Potential Contaminants ³
200	General Contractors	6 YR	Database Search	IOC, VOC, SOC
201	Recreational Vehicles- Renting & Lease	6 YR	Database Search	IOC, VOC, SOC
202	Automobile Restoration- Antique & Classic	6 YR	Database Search	IOC, VOC, SOC
203	Automobile Parts & Supplies-Retail	6 YR	Database Search	IOC, VOC, SOC
204	Electric Equipment & Supplies-Wholesale	6 YR	Database Search	IOC, SOC
205	Automobile Body-Repairing & Painting	6 YR	Database Search	IOC, VOC, SOC
206	Brake Service	6 YR	Database Search	IOC, VOC, SOC
207	Cleaners	6 YR	Database Search	IOC, SOC
208	General Contractors	6 YR	Database Search	IOC, VOC, SOC
209	Laboratories-Dental	6 YR	Database Search	IOC, VOC, SOC
210	Automobile Body Shop Equipment/Supplies	6 YR	Database Search	IOC, VOC, SOC
211	Aerial Applicators	6 YR	Database Search	IOC, VOC, SOC
212	Automobile Body-Repairing & Painting	6 YR	Database Search	IOC, VOC, SOC
213, 225	RCRA Site, Truck- Repairing & Service	6 YR	Database Search	IOC, VOC, SOC
214	Automobile Body-Repairing & Painting	6 YR	Database Search	IOC, VOC, SOC
215	Funeral Directors	6 YR	Database Search	IOC, SOC
216	Photographers-Portrait	6 YR	Database Search	IOC, SOC
217	Carpet & Rug Cleaners	6 YR	Database Search	IOC, VOC, SOC
218	Hydraulic Equipment- Repairing	6 YR	Database Search	IOC, VOC, SOC
219	Water Treatment Equip Service & Supplies	6 YR	Database Search	IOC, VOC, SOC
220	Home Improvements	6 YR	Database Search	IOC, VOC, SOC
221	TRI site, No additional data	6 YR	Database Search	IOC, VOC, SOC
222	CERCLA Site	6 YR	Database Search	IOC, VOC, SOC
223	CERCLA Site	6 YR	Database Search	IOC, VOC, SOC
224	RCRA Site	6 YR	Database Search	IOC, VOC, SOC
227	RCRA Site	6 YR	Database Search	IOC, VOC, SOC
228	Mine, Gold	6 YR	Database Search	IOC, VOC, SOC
229	Mine, Sand & Gravel	6 YR	Database Search	IOC, VOC, SOC
230	Mine, Sand & Gravel	6 YR	Database Search	IOC, VOC, SOC
231	Deep Injection Well, Active	6 YR	Database Search	IOC, VOC, SOC
232	Deep Injection Well, Active	6 YR	Database Search	IOC, VOC, SOC
233	Deep Injection Well, Active	6 YR	Database Search	IOC, VOC, SOC
234	SARA Site	6 YR	Database Search	IOC, VOC, SOC
235	SARA Site, General Auto Repair Parts	6 YR	Database Search	IOC, VOC, SOC
236	SARA Site	6 YR	Database Search	IOC, VOC, SOC
238	SARA Site, Frozen Fruits, Juices and vegetables	6 YR	Database Search	IOC, SOC

SITE #	Source Description ¹	TOT Zone ² (years)	Source of Information	Potential Contaminants ³
239	SARA Site, Gasoline Service Station	6 YR	Database Search	IOC, VOC, SOC
240, 246	AST Site, SARA Site, Petroleum Bulk Station and Terminal	6 YR	Database Search	VOC, SOC
241	SARA Site	6 YR	Database Search	IOC, VOC, SOC
242	SARA Site	6 YR	Database Search	IOC, VOC, SOC
243	SARA Site	6 YR	Database Search	IOC, VOC, SOC
244	SARA Site	6 YR	Database Search	IOC, VOC, SOC
245	SARA Site, Telephone Communication, except radio	6 YR	Database Search	IOC, SOC
	Union Pacific Railroad	6 YR	GIS Map	IOC, VOC, SOC
	Highway 30	6 YR	GIS Map	IOC, VOC, SOC
	Snake River	6 YR	GIS Map	IOC, VOC, SOC
247, 248	UST Site, LUST Site, Site Cleanup Incomplete, Impact: GROUND WATER	10 YR	Database Search	VOC, SOC
249, 250, 251, 254,	SARA Site, AST Site, Petroleum Bulk Station and Terminal	10 YR	Database Search	VOC, SOC
252, 253	AST, Wholesale	10 YR	Database Search	VOC, SOC
255	Group1	10 YR	Database Search	SOC
256	Group1, SRP Demo	10 YR	Database Search	IOC
	Union Pacific Railroad	10 YR	GIS Map	IOC, VOC, SOC
	Snake River	10 YR	GIS Map	IOC, VOC, SOC

¹ WLAP = waste land application site, SARA = superfund amendments and reauthorization act, Group 1 = Sites that show elevated levels of contaminants and are not within the Priority 1 areas

² TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead

³ IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical